What is claimed is:

1.   A cathode ray tube comprising:

a panel of which an outer surface is substantially flat;

a shadow mask installed with a certain interval from an inner surface of the panel, having a plurality of apertures through which electron beams pass, and formed as a pin-cushion shape in which long and short sides of the shadow mask are inwardly concaved; and

the mask frame for fixing and supporting the shadow mask, wherein long and short sides of the mask frame are slanted from ends toward centers thereof in order to maintain a predetermined interval with the long and short sides of the shadow mask.

2.   The cathode ray tube of claim 1, wherein the long and short sides of the mask frame are curvedly formed to have predetermined curvatures from ends to centers thereof.

3.   The cathode ray tube of claim 1, wherein following conditions are satisfied,

$R1 > R3, R2 > R4,$

in which R1 denotes a radius of curvature of the long side of the mask frame, R2 denotes a radius of curvature of the short side of the mask frame, R3 denotes a radius of curvature of the long side of the shadow mask, and R4 denotes a radius of curvature of the short side of the shadow mask.

4.   The cathode ray tube of claim 3, wherein a following condition is satisfied,

R3 > R4.

5   5.   The cathode ray tube of claim 1, wherein following conditions are satisfied,

$0.3 \leq DLc/DLi \leq 0.5$, $0.3 \leq DSc/DSi \leq 0.5$,

in which DLc denotes an interval between the center of the long side of the shadow mask and the center of the long side of the mask frame, DSc

10   denotes an interval between the center of the short side of the shadow mask and the center of the short side of the mask frame, DLi denotes an interval between the center of the long side of the shadow mask and a center of an imaginary line connecting both ends of the long side of the mask frame, and DSi denotes an interval between the center of the short side of the shadow mask

15   and a center of an imaginary line connecting both ends of the short side of the mask frame.

6.   The cathode ray tube of claim 1, wherein a width of the slanted portion of the long side slanted from the end of the long side of the mask frame

20   toward the center thereof is equal to or larger than 70% of a width from the end of the long side of the mask frame toward the center thereof, and a width of the slanted portion of the short side slanted from the end of the short side of the mask frame toward the center thereof is equal to or larger than 70% of a width from the end of the short side of the mask frame toward the center thereof.

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7.   The cathode ray tube of claim 6, wherein following conditions are satisfied,

$0.3 \leq DL3/DLi \leq 0.5$, $0.3 \leq DS3/DSi \leq 0.5$,

in which DL3 denotes an interval between the mask frame and the shadow mask at a position corresponding to 70% of a distance from the end of the long side of the mask frame toward the center thereof, DS3 denotes an interval between the mask frame and the shadow mask at a position corresponding to 70% of a distance from the end of the short side of the mask frame toward the center thereof, DLi denotes an interval between the center of the long side of the shadow mask and a center of an imaginary line connecting both ends of the long side of the mask frame, and DSi denotes an interval between the center of the short side of the shadow mask and a center of an imaginary line connecting both of the short side of the mask frame.

8.   The cathode ray tube of claim 1, wherein following conditions are satisfied

$0° \leq Lcor \leq 15°$ or $0° \leq Scor \leq 15°$,

in which Lcor denotes a slanted angle from the end of the long side of the mask frame toward the center thereof, and Scor denotes a slanted angle from the end of the short side of the mask frame toward the center thereof.

9.   The cathode ray tube of claim 8, wherein a following condition is satisfied, $0° < Lcor \leq Scor \leq 10°$.

10.   The cathode ray tube of claim 1, wherein an interval between the

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shadow mask and the mask frame is equal to or larger than 2.6mm.

11. A cathode ray tube comprising:

a panel of which an outer surface is substantially flat;

a shadow mask installed with a certain interval from an inner surface of the panel and having a plurality of apertures through which electron beams pass; and

a mask frame for fixing and supporting the shadow mask, wherein at least one of long and short sides of the mask frame is concaved toward and inside of the mask frame.

12. The cathode ray tube of claim 11, wherein at least one of the long and short sides of the mask frame is formed as curved surfaces having predetermined curvatures from the ends towards the centers.

13. The cathode ray tube of claim 11, wherein following conditions are satisfied,

R1 > R3, R2 > R4,

in which R1 denotes a radius of curvature of the long side of the mask frame, R2 denotes a radius of curvature of the short side of the mask frame, R3 denotes a radius of curvature of a long side of the shadow mask, and R4 denotes a radius of curvature of a short side of the shadow mask.

14. The cathode ray tube of claim 13, wherein a following condition is satisfied,

R3 > R4.

15. The cathode ray tube of claim 11, wherein following conditions are satisfied,

$0.3 \leq DLc/DLi \leq 0.5$, $0.3 \leq DSc/DSi \leq 0.5$,

in which DLc denotes an interval between a center of a long side of the shadow mask and a center of the long side of the mask frame, DSc denotes an interval between a center of a short side of the shadow mask and a center of the short side of the mask frame, DLi denotes an interval between the center of the long side of the shadow mask and a center of an imaginary line connecting both ends of the long side of the mask frame, and DSi denotes an interval between the center of the short side of the shadow mask and a center of an imaginary line connecting both ends of the short side of the mask frame.

16. The cathode ray tube of claim 11, wherein a width of the concaved portion of the long side of the mask frame is equal to or larger than 70% of a width from an end of the long side of the mask frame toward a center thereof, and a width of the concaved portion of the short side of the mask frame is equal to or larger than 70% of a width from an end of the short side of the mask frame toward a center thereof.

17. The cathode ray tube of claim 11, wherein following conditions are satisfied,

$0.3 \leq DL3/DLi \leq 0.5$, $0.3 \leq DS3/DSi \leq 0.5$,

in which DL3 denotes an interval between the mask frame and the

shadow mask at a position corresponding to 70% of a distance from an end of the long side of the mask frame toward a center thereof, DS3 denotes an interval between the mask frame and the shadow mask at a position corresponding to 70% of a distance from an end of the short side of the mask frame toward a center thereof, DLi denotes an interval between the center of the long side of the shadow mask and a center of an imaginary line connecting both ends of the long side of the mask frame, and DSi denotes an interval between the center of the short side of the shadow mask and a center of an imaginary line connecting both ends of the short side of the mask frame.

18.   The cathode ray tube of claim 11, wherein following conditions are satisfied

$0° \leq Lcor \leq 15°$ or $0° \leq Scor \leq 15°$,

in which Lcor denotes a slanted angle from an end of the long side of the mask frame toward the center thereof, and Scor denotes a slanted angle from an end of the short side of the mask frame toward the center thereof.

19.   The cathode ray tube of claim 18, wherein a following condition is satisfied, $0° < Lcor \leq Scor \leq 10°$.

20.   The cathode ray tube of claim 11, wherein an interval between the shadow mask and the mask frame is equal to or larger than 2.6mm.

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